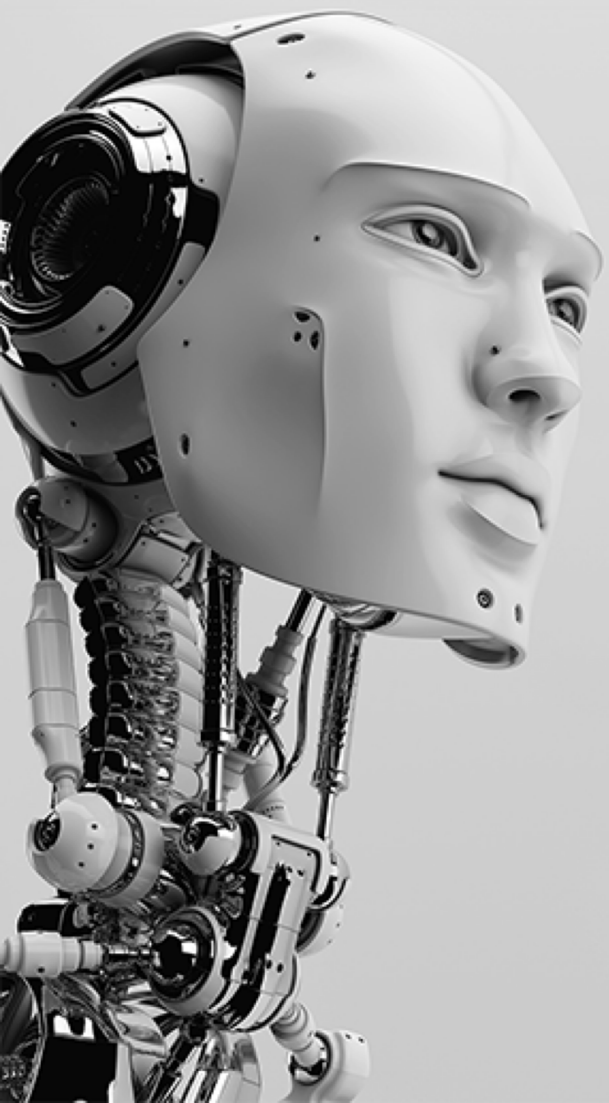


Matrix AI Network

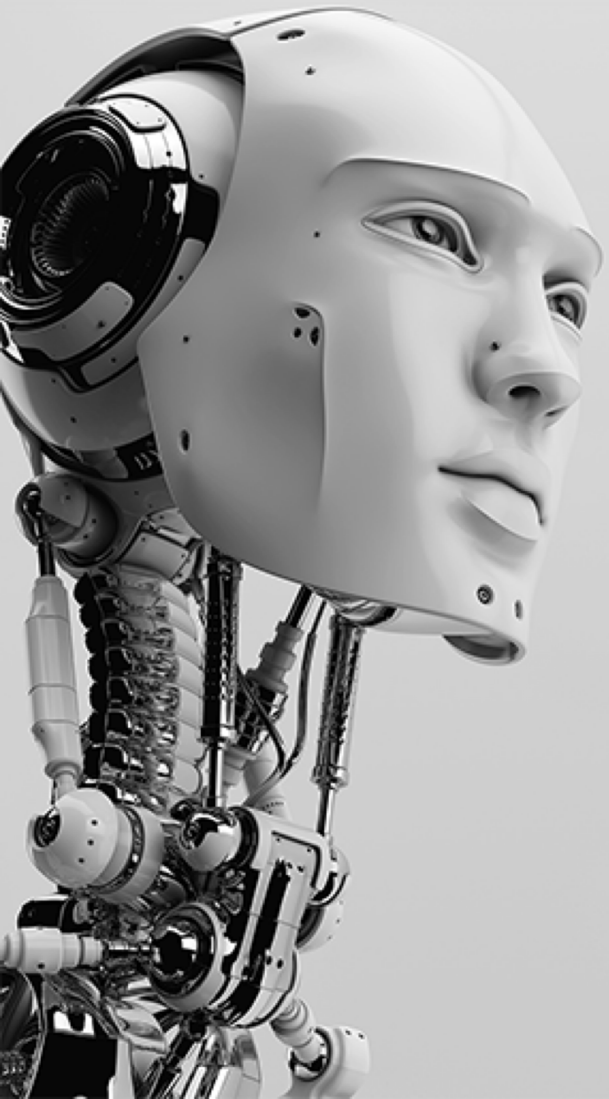
A COMPREHENSIVE REVIEW AND RATING



Things marked with a stop sign indicate a particularly noteworthy portion of this project.

CryptoResearch
April 2018

What is Matrix?

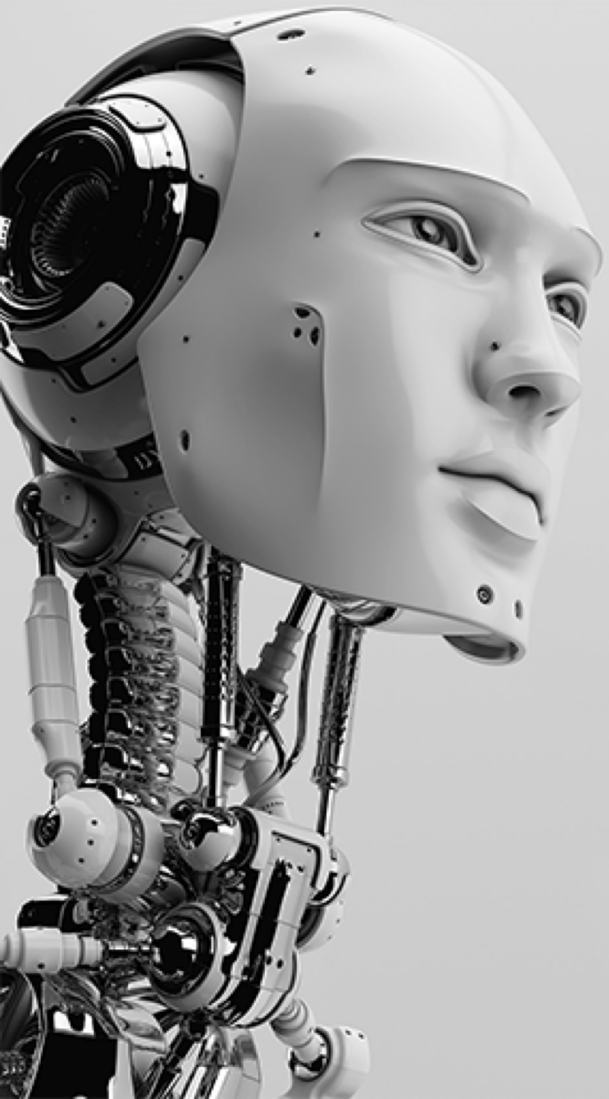


Matrix is a rare blend of future proofed problem solving technology, a world class team, and the most visibly strong partnerships in the blockchain space.

Designed to be the most intelligent platform combining the best of blockchain and artificial intelligence their aim is to be the easiest technology through the use of no code smart contracts, the fastest using a patented and unique POW/POS hybrid engine, the most secure through the use of AI based security auditing, and the most purposeful using a unique mining model. The platform is self evolving and has the ability to learn the most optimal methods for performance, security, and mining.

With this team of world class experts and the most premier partnerships of any blockchain project Matrix is poised to have more potential than just about all other blockchain projects.

Project Goals

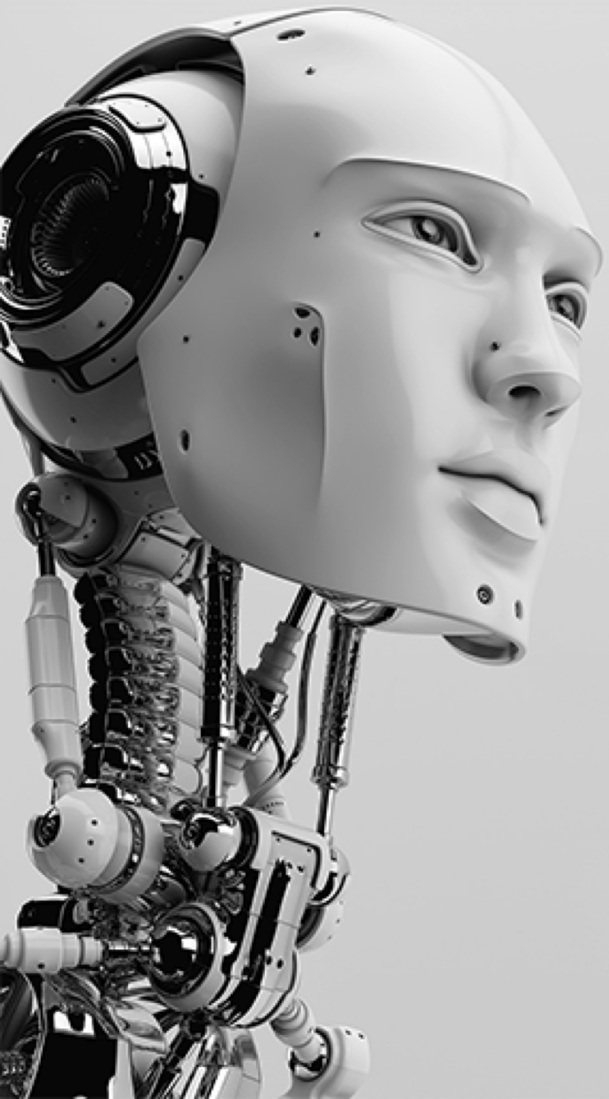


Matrix identified four major problems with current generation blockchains.

- Speed
- Ease of Use
- Security
- Wasteful Mining

Their aim is to solve each of the problems through the use of proprietary models and artificial intelligence.

The Technology - Speed



As of today, Matrix has successfully tested 50,000 TPS in a lab setting. Matrix has a goal of 1,000,000 TPS on chain. They believe they can achieve this through a combination of a unique POS/POW engine, AI, and proprietary hardware. MATRIX has engineered an ingenious solution to scaling: clusters and hierarchy. The network is continuously split into random clusters and a so-called delegate node within each cluster carries out the PoW calculation. The chance of becoming a delegate node is determined by a PoS calculation and AI. This solution eliminates the issue of latency and having to broadcast all transactions to the entire node network which is the main hurdle for scaling.

To support their unique mining, they are creating their own chips which will amplify the speed of the engine and purposeful calculations.

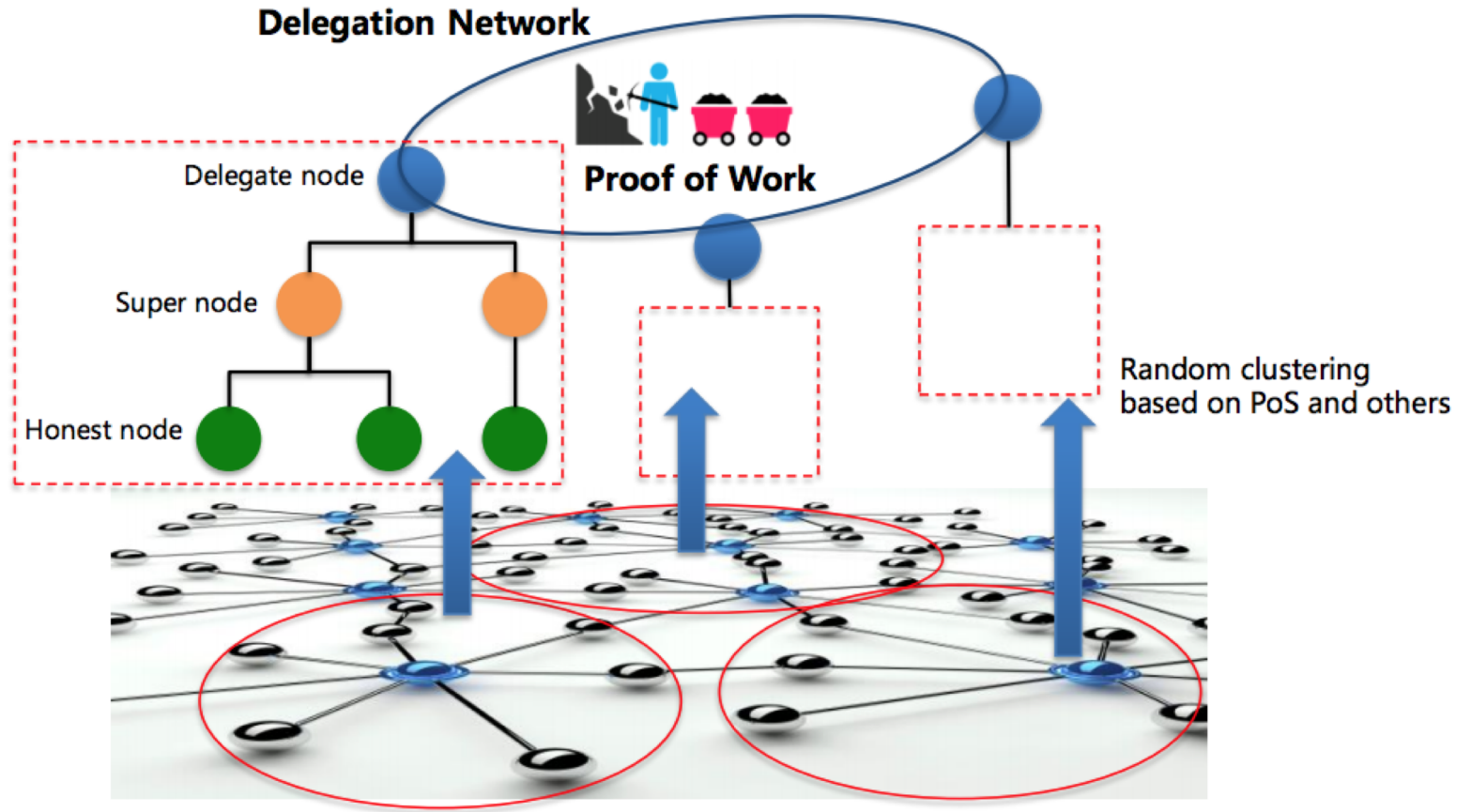
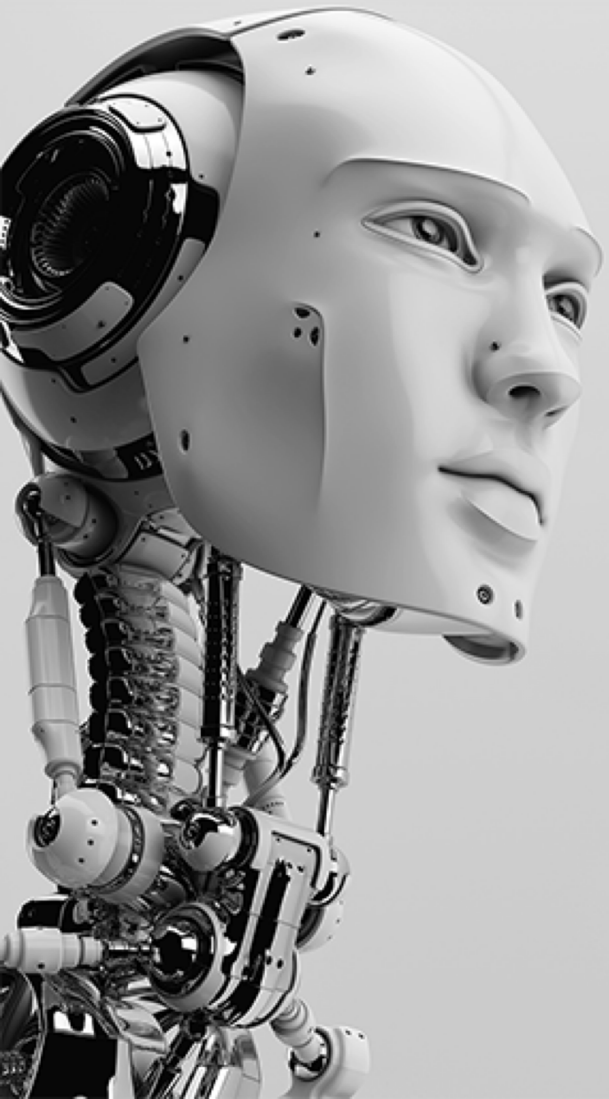
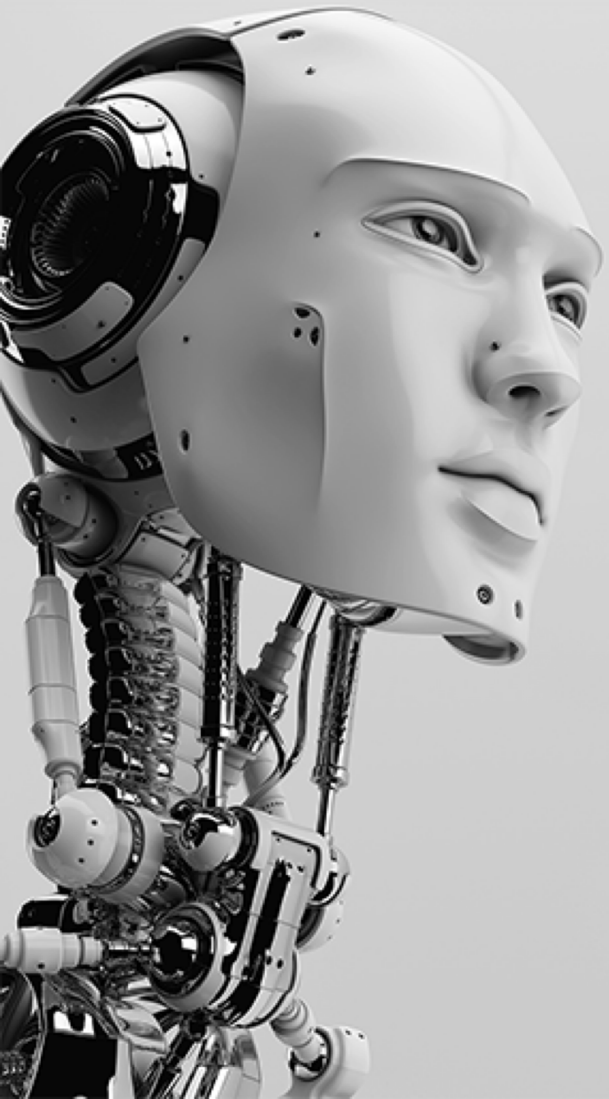


Figure 1. Random clustering based PoS + PoW consensus

FIGURE 1. RANDOM CLUSTERING BASED POS + POW CONSENSUS



The Technology – Ease of Use



Matrix identified early that a major barrier to adoption was the lack of developer resources who knew solidity (Ethereum’s smart contract programming language). Matrix, through AI and natural language, automatically builds smart contracts if the intent of those contracts is known.

This has been an area of skepticism among the community. “How can they pull this off”, is often asked. Matrix has identified between 40-60 smart contract patterns. General programming languages have unlimited amounts of these patterns which is why it seems so difficult to achieve. Given the limited set of patterns, Matrix feels like they can easily build these contracts through AI.

This feature warrants additional highlight. With the lack of developer resources and the difficulty of ramp up, Matrix will allow business owners to define and build contracts. This is where the function of corporate contract execution sits today. This should allow the speed of adoption to increase rapidly. We can’t overstate how important this feature is to the blockchain community. Kudos to Matrix for recognizing this problem and creating a forward thinking solution to solve it.

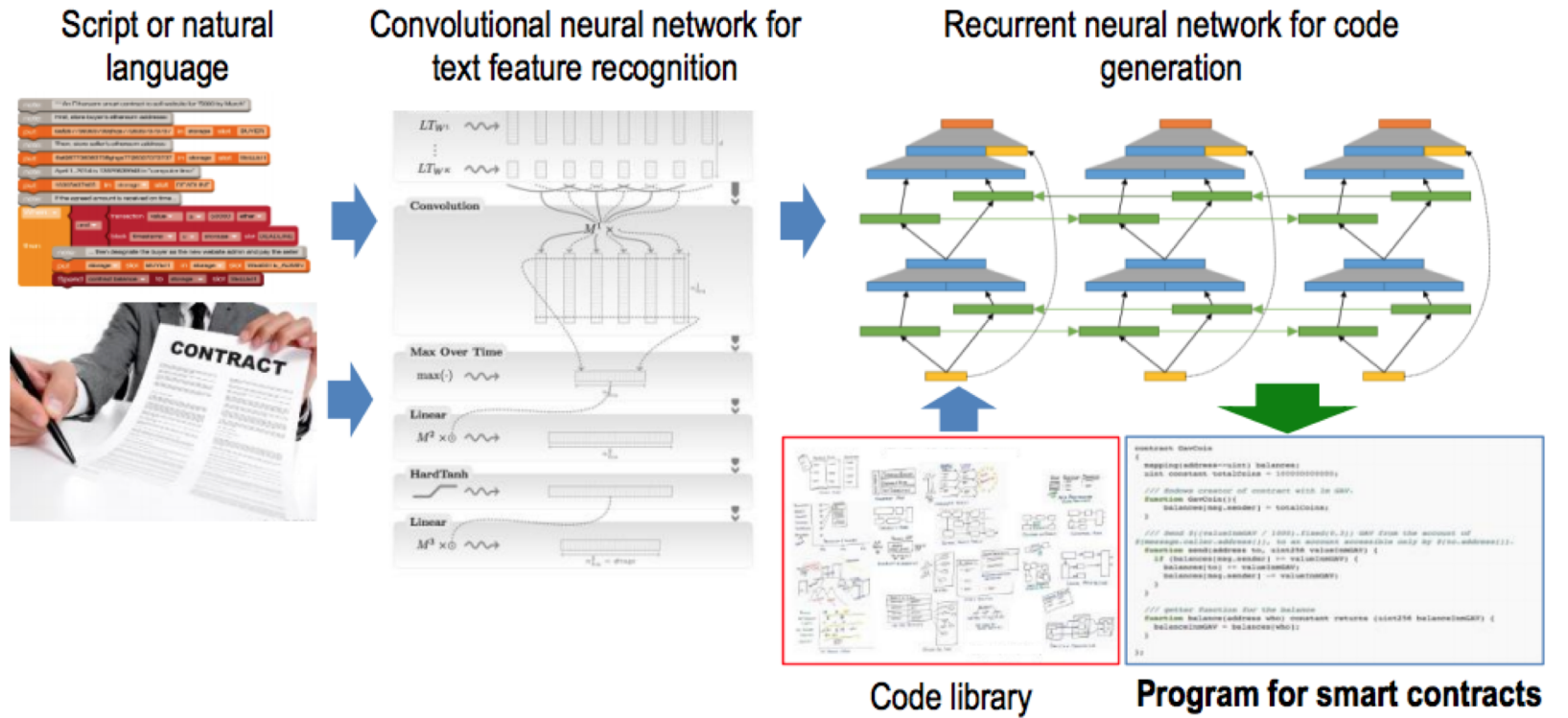
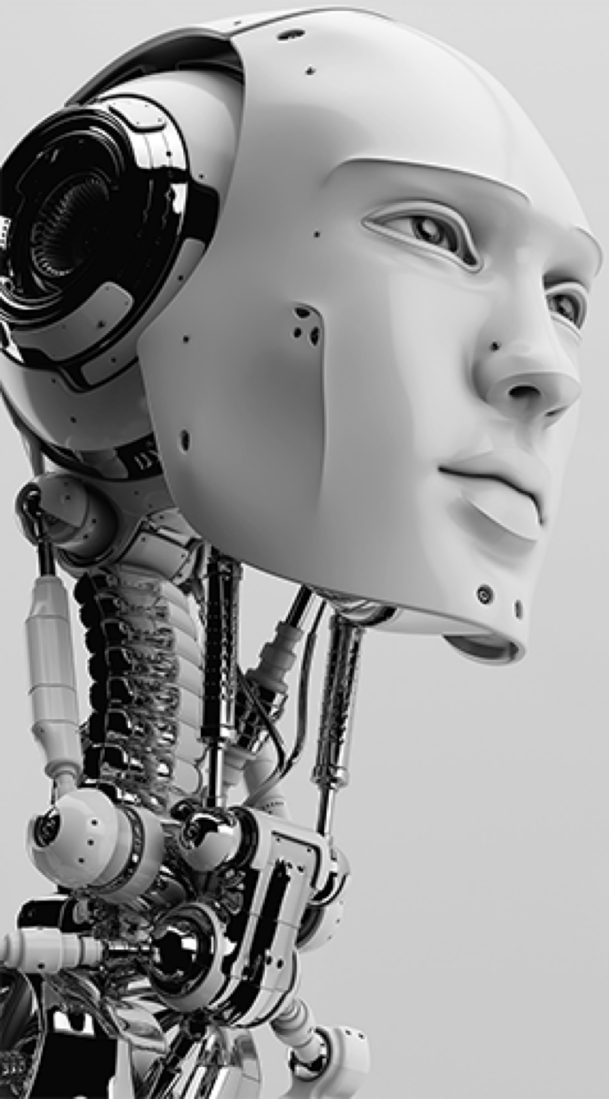
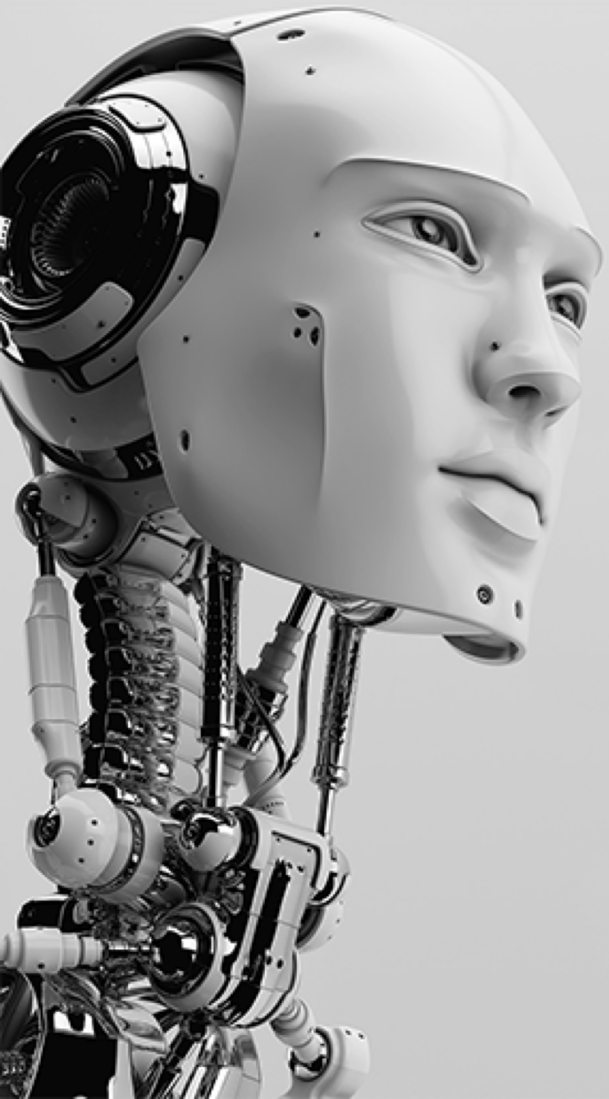


Figure 2. Deep learning based automatic generation of smart contract programs

The Technology – Security



There is some confusion in the investment community about blockchain security. One side of community says that the blockchain is the most secure in existence while the other is puzzled when they hear about hacks and theft. The community is left to wonder how this is possible given how secure blockchain is.

Blockchains are themselves very secure, but smart contracts are not. There have been numerous vulnerabilities outlined and cases of programmer errors causing massive monetary losses.

If you're familiar with Quantstamp their business model is built on finding bugs and vulnerabilities within Ethereum's smart contracts. It's an effective system, but requires time, money, and resources to achieve. Matrix has developed a security auditing engine in AI that detects issues before they are deployed to the platform. This is a self adapting system which learns over time and looks for future vulnerabilities. This will not only lead to a more secure environment, but it will save additional time and money deploying smart contracts.

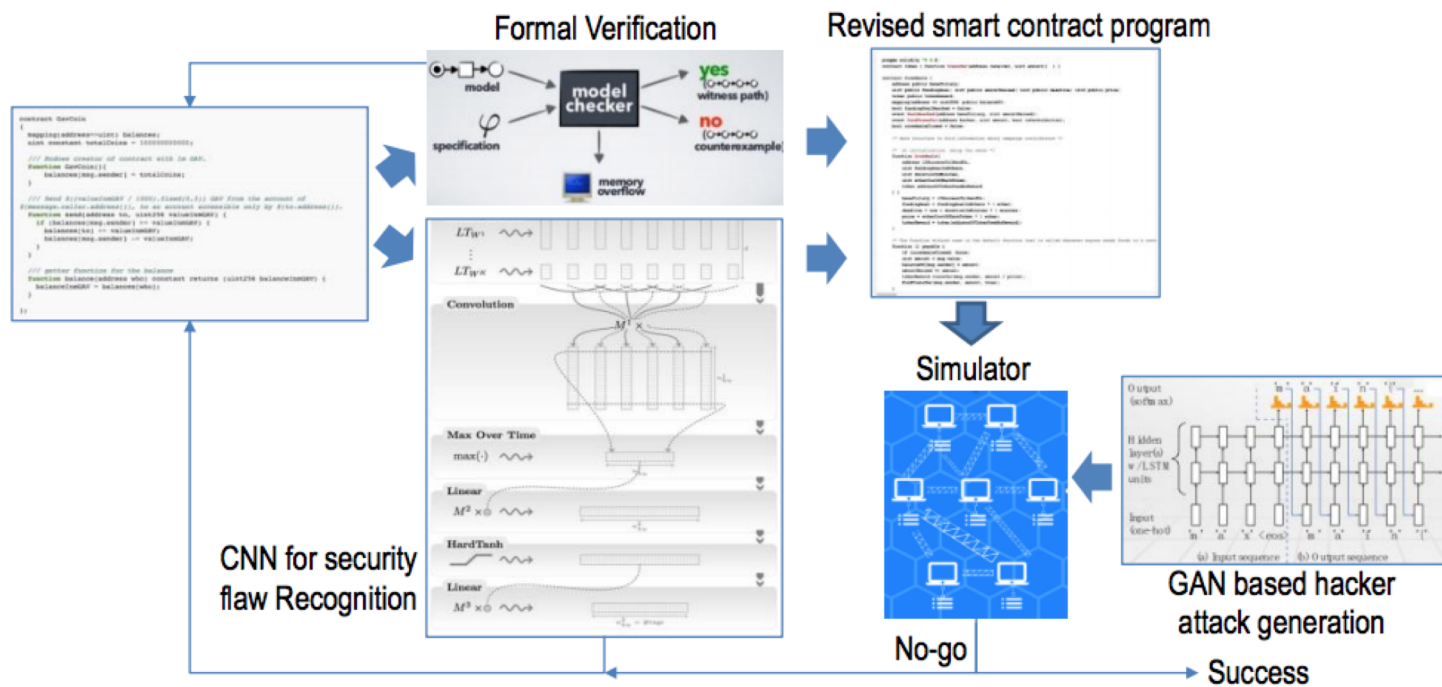
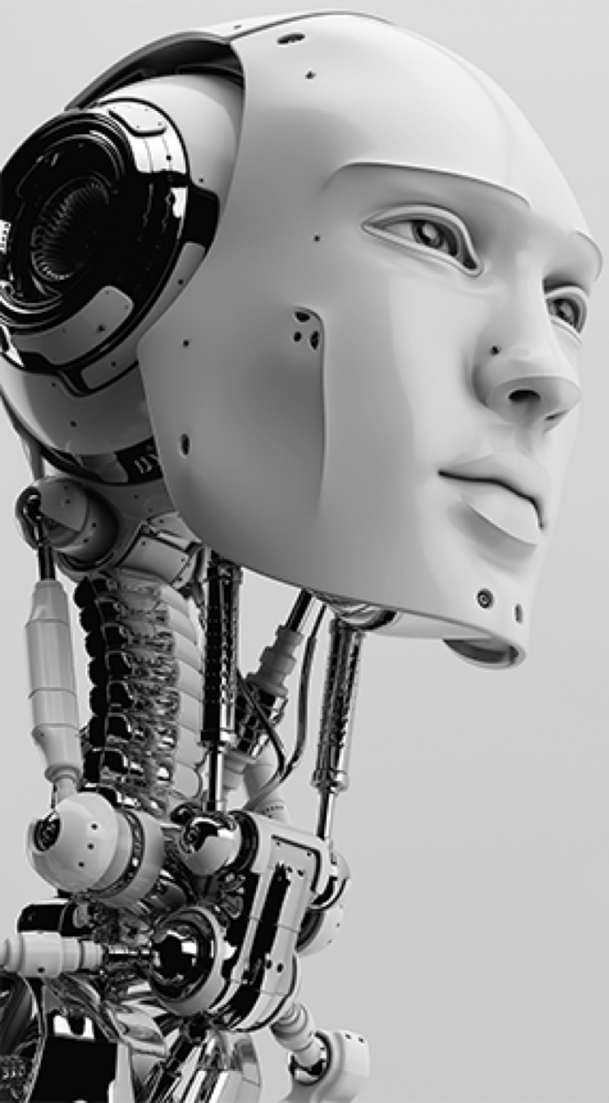
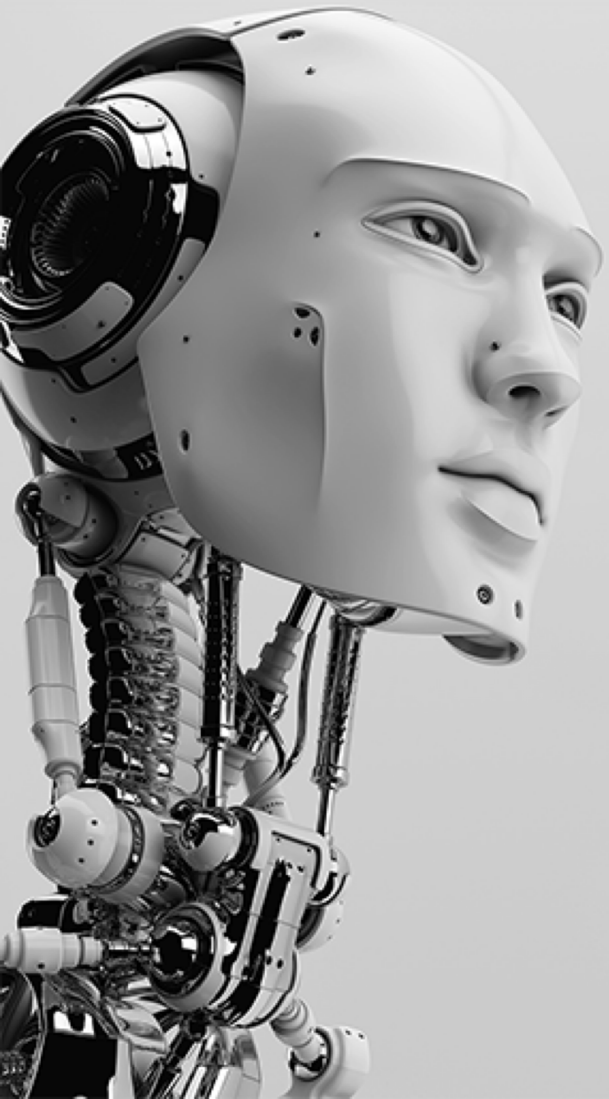


Figure 3. Deep learning based security validation and enhancement of smart contract programs

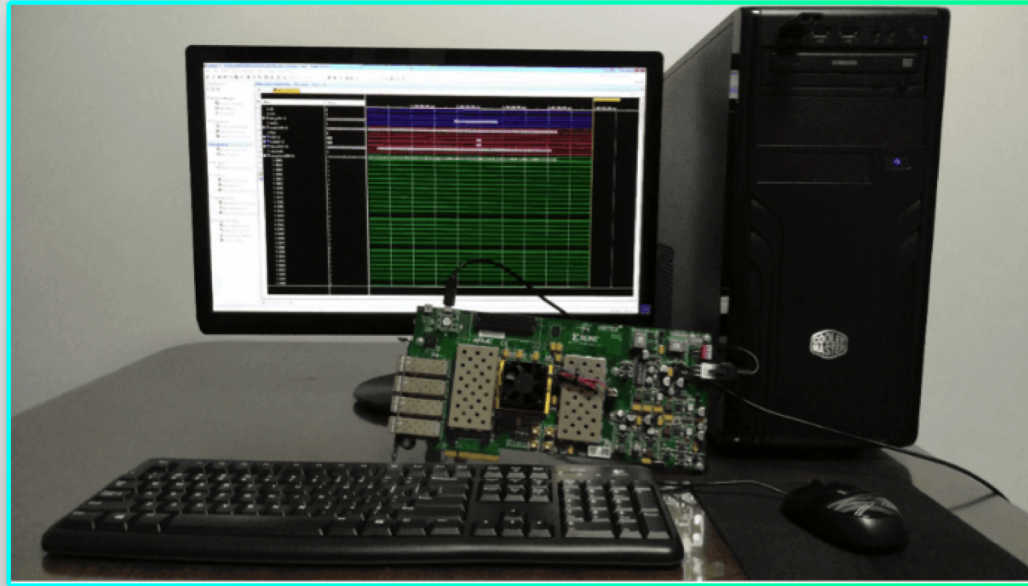
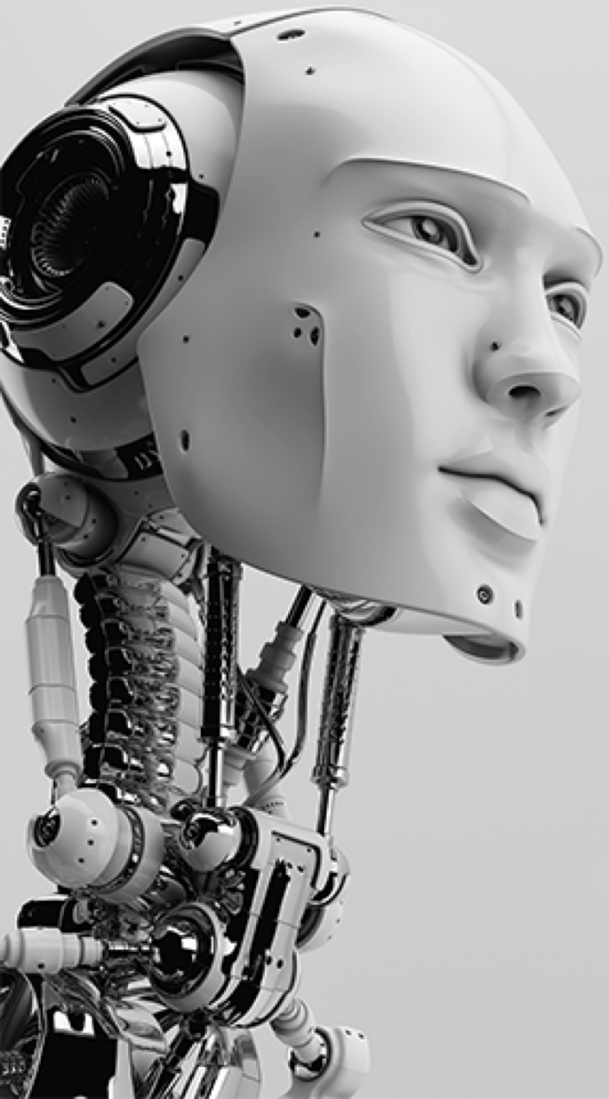
The Technology – Mining



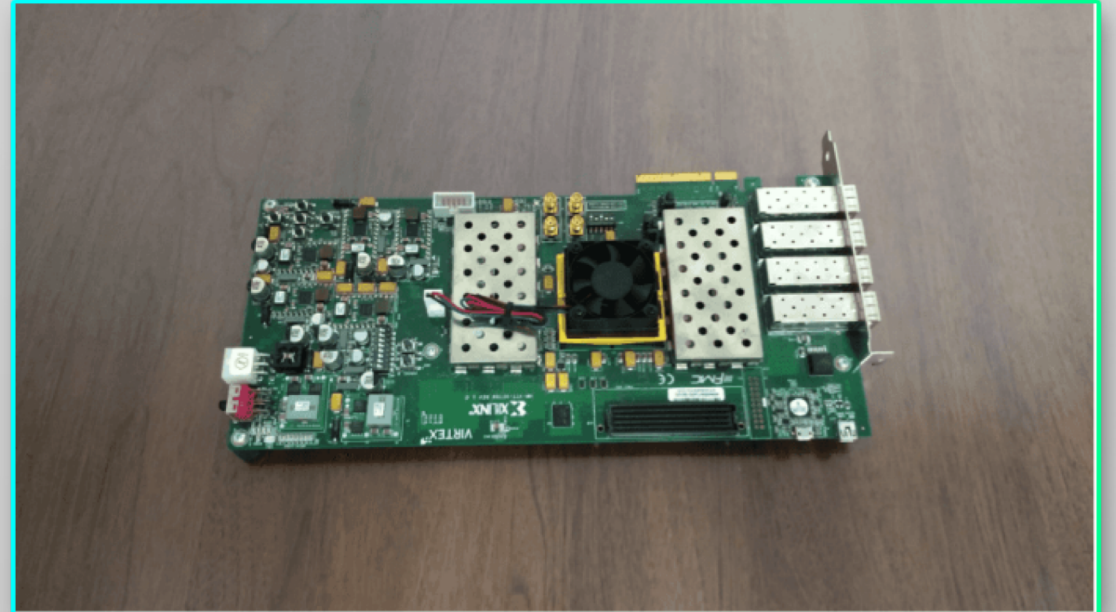
Standard mining functions use hash functions to do simple calculations. These calculations usually do very little, but expend a tremendous amount of energy. In the case of Bitcoin, it is said the computing power needed to create each digital token consumes at least as much electricity as the average American household burns in two years.

Matrix took a different approach developing an MCMC (Markov Chain Monte Carlo) statistical mining system. This will allow it to not only perform the mining function, but real world probability, statistical, and AI calculations. This is called purposeful or 'friendly' mining.

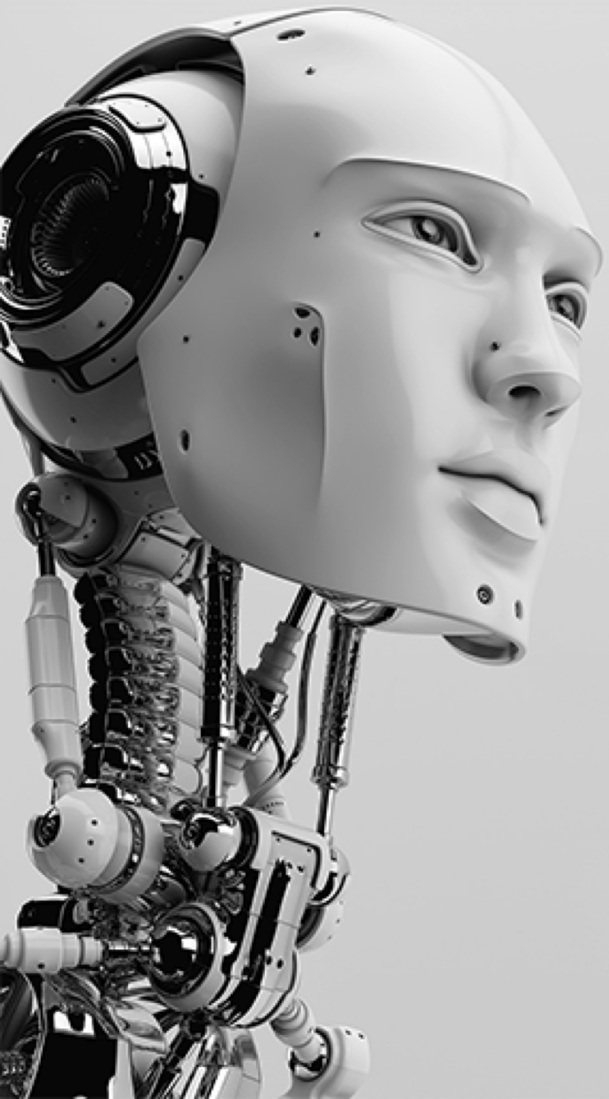
Beyond the ability to save energy this could allow Matrix to build new business models around a rental-able calculation super computer for the scientific community.



Matrix Hardware Prototypes



The Technology – Hardware

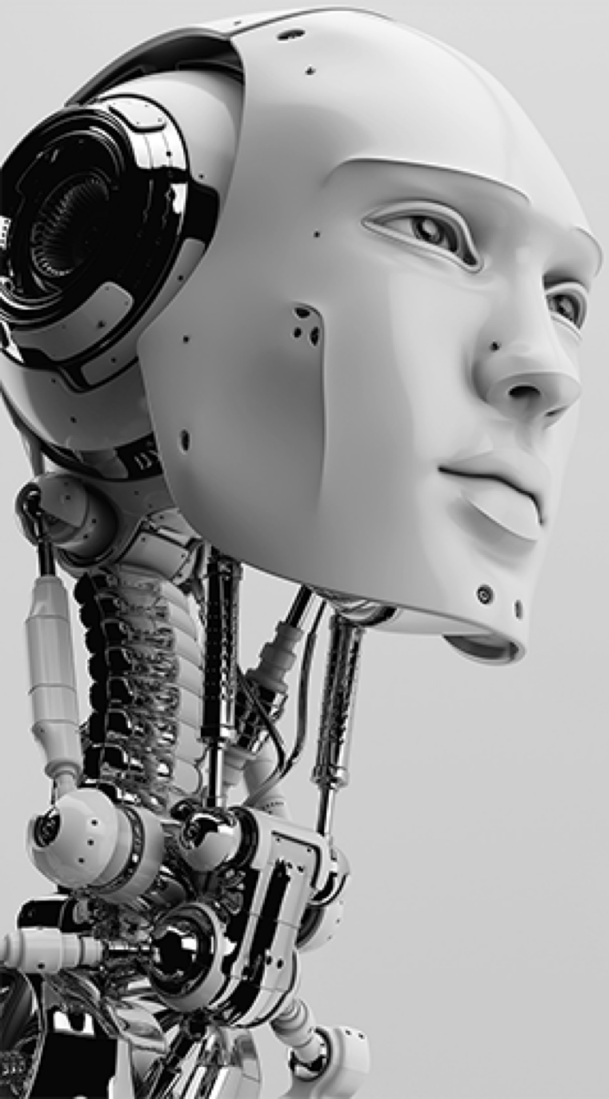


Given that MCMC functions are not very GPU friendly it was evident to Matrix that they would have to design their own hardware to facilitate the performance needed for statistical computations.

They are designing a chipset to allow these calculations, but it's unclear if they will be producing these boards themselves or outsource them to a manufacturer.

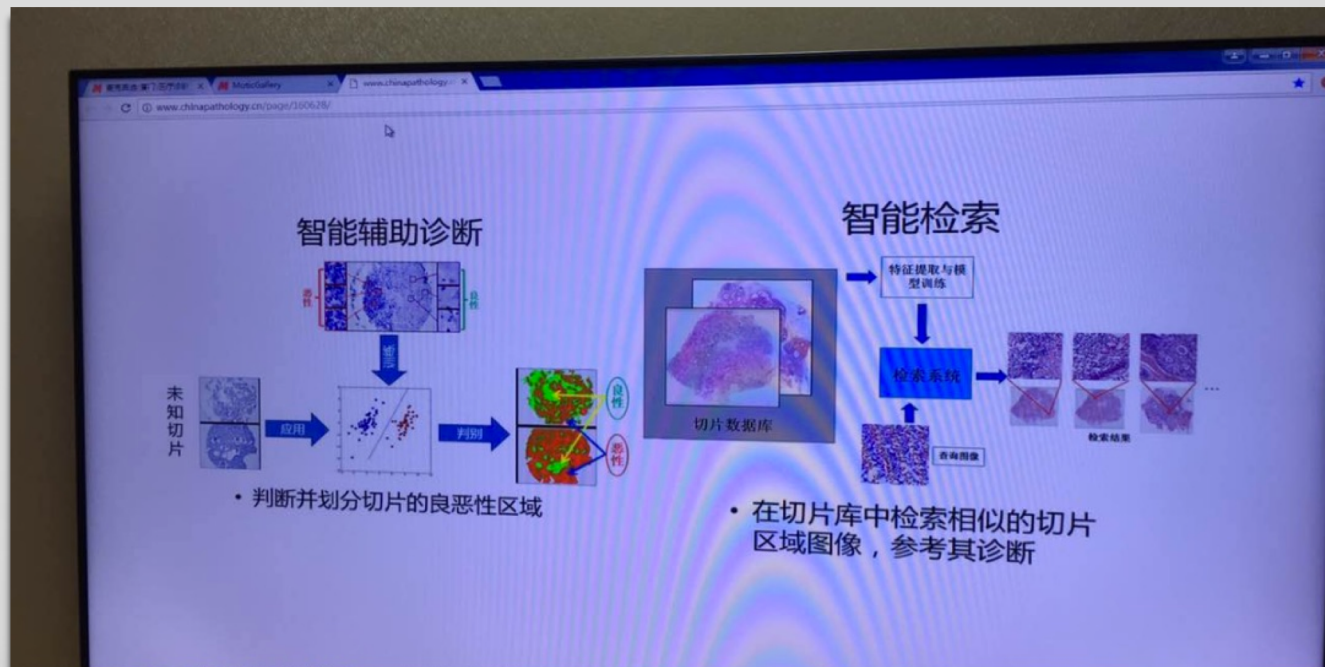
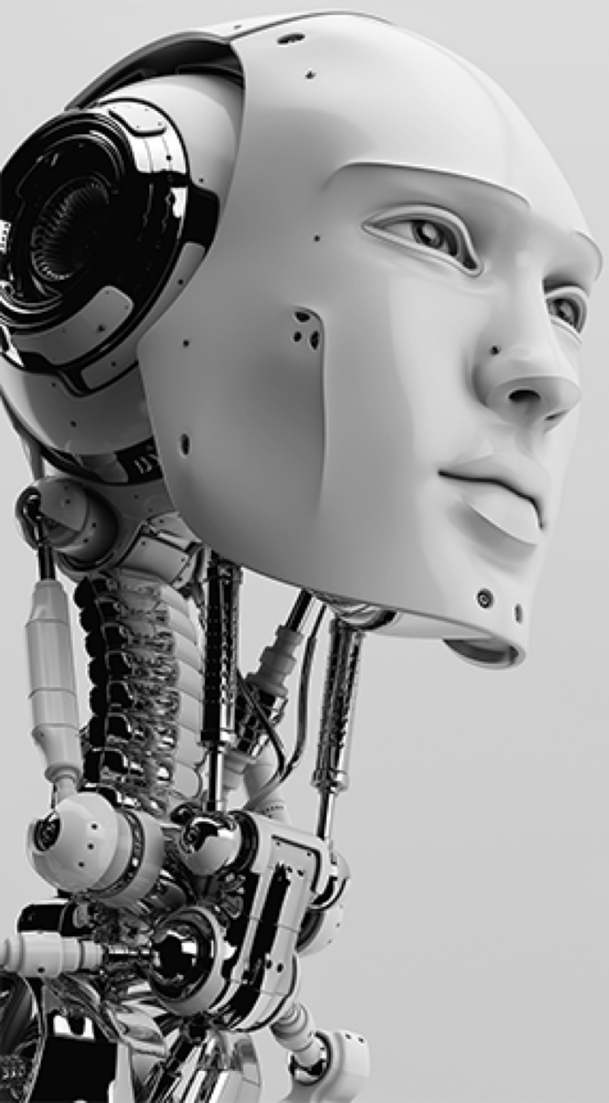
Certain team members have worked for AMD and their lead technology AI member is an associate for nVidia. It's equally unclear how these relationships will supplement their work on the chips, but it's evident from the team breakdown that hardware is not an after thought. This is something they are keenly focused on.

The Technology – AI

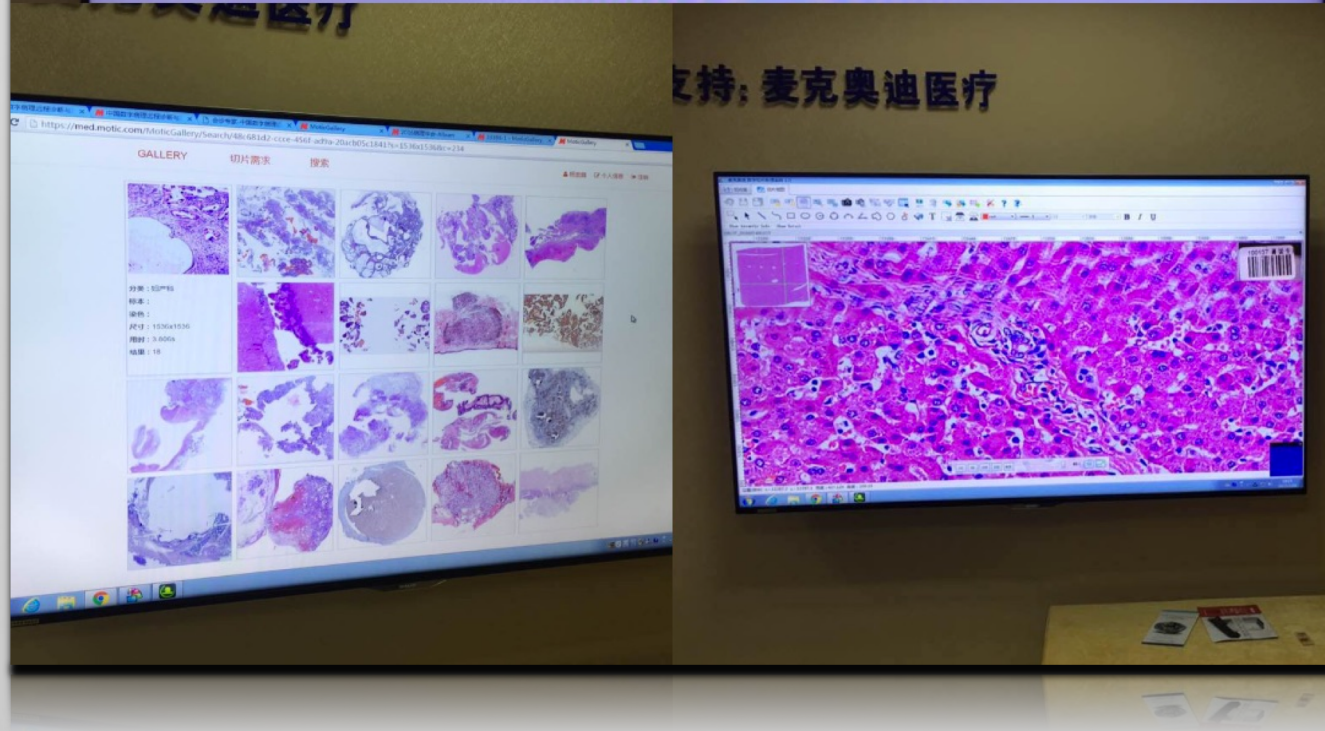


While all of the hype is around Matrix's blockchain ambitions it should be noted that they started with a successful AI platform. Their AI platform has been entered into numerous prestigious AI competitions and they won each of them. They were competing against the likes of Facebook, Microsoft, and Stanford to name a few.

This is also the same engine that allowed them to partner with the Beijing Cancer Hospital to assist with cancer diagnosis.



Matrix Cancer
AI Diagnosis
System





The Team

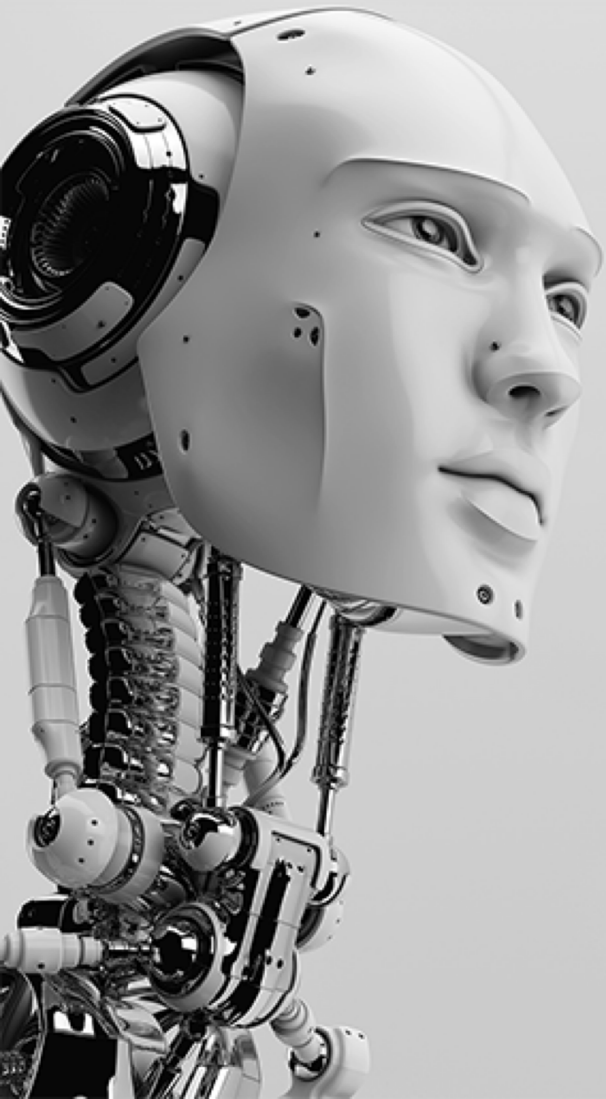
A project of this scale will require nothing short of world class talent. Matrix has an otherworldly technical team. I have yet to find a team more impressive in the blockchain space.

Steve Deng is the top AI scientist at Matrix and it's clear he's at the top of the superstar lineup. His list of credentials could line a ten story building. Bill Ni is in charge of their blockchain work and is equally, if not as high profile, impressive. Tim Shi is their Chief Chip Scientist who was the Principal System Architect of AMD. Owen Tao is their CEO who also has an impressive background, but tends to be overshadowed by the sheer jaw dropping technical experience of the other team members.

Though it's not communicated very well my understanding is that there about 25-30 team members including developers, marketing, and other functions. They include people from Facebook, Microsoft, Alibaba, and Qualcomm among other prestigious companies.

One can only imagine the level of recruiting firepower that can come from Steve's affiliation with Tsinghua university. His ability to spot and recruit talent from one of if not the top China technical university puts an impressive face on the team landscape. It's also notable that given the challenging nature of this project elite technical talent would jump at the chance to be associated with such a large and rewardable effort.

To say this team is impressive wouldn't do it nearly the justice they deserve. If anyone can pull off a project of this magnitude it's clear they picked the right pedigree for the job.



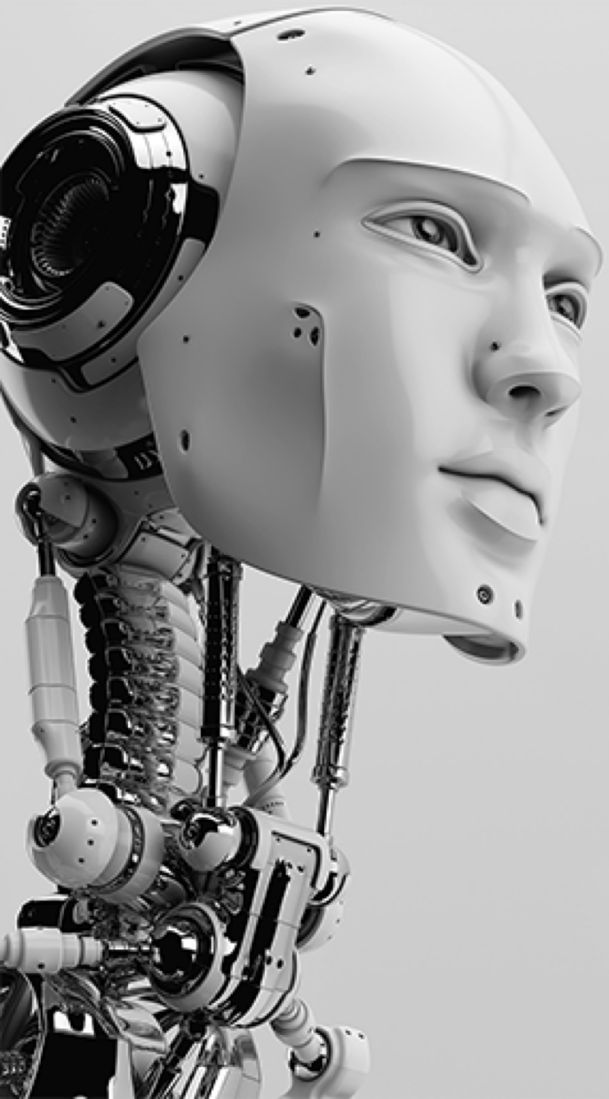


The Partners

While the tech and team are top in class without partners it's difficult to grow and scale a business. Matrix has this part covered as well – in spades.

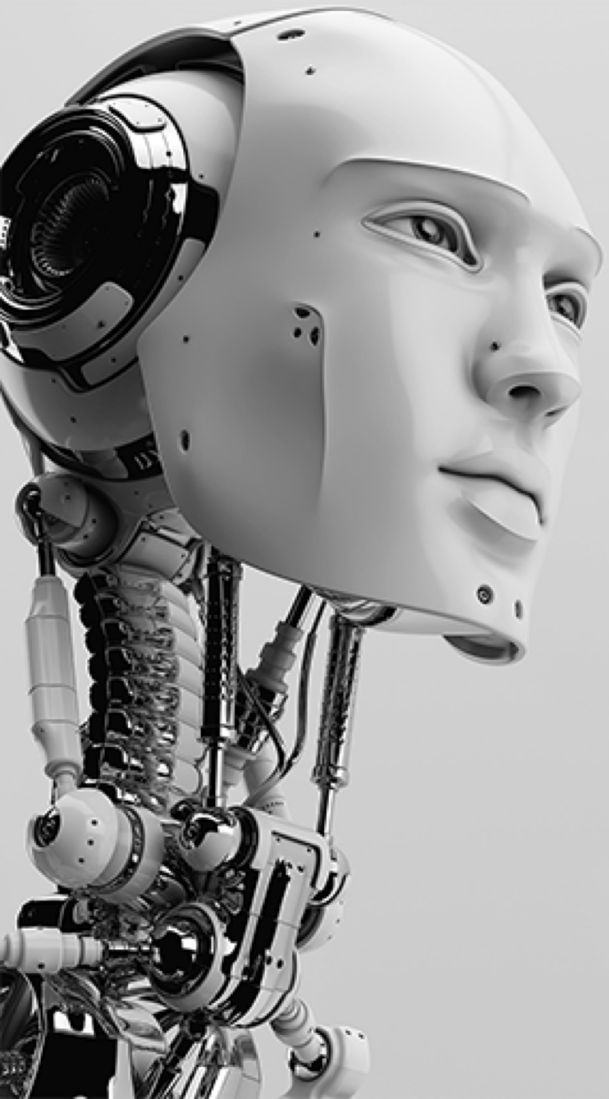
If you haven't had a chance to educate yourself on the biggest project in human history, please see the sources at the end of this review. It's called One Belt One Road and it's the monster of all megaprojects. It involves over 65 countries at a cost of \$4-8 trillion dollars. Yes, trillion. Matrix has a partnership with the OBOR National government research and development center. They appear to be the only ones associated with the AI and blockchain portions, but it's likely that a project of this size won't have multiple partners. It's a certainty that many international contracts between other countries and companies will result from this project.

Matrix is also working with the Beijing Cancer Hospital for the diagnosis of liver cancer. In the future they will work with the hospital to create custom medicine based on the human genome. They are working with additional Chinese hospitals as well.





The Partners - 2



In addition to these high-profile mega partners they are also aligned with Hyperledger and the Linux Foundation.

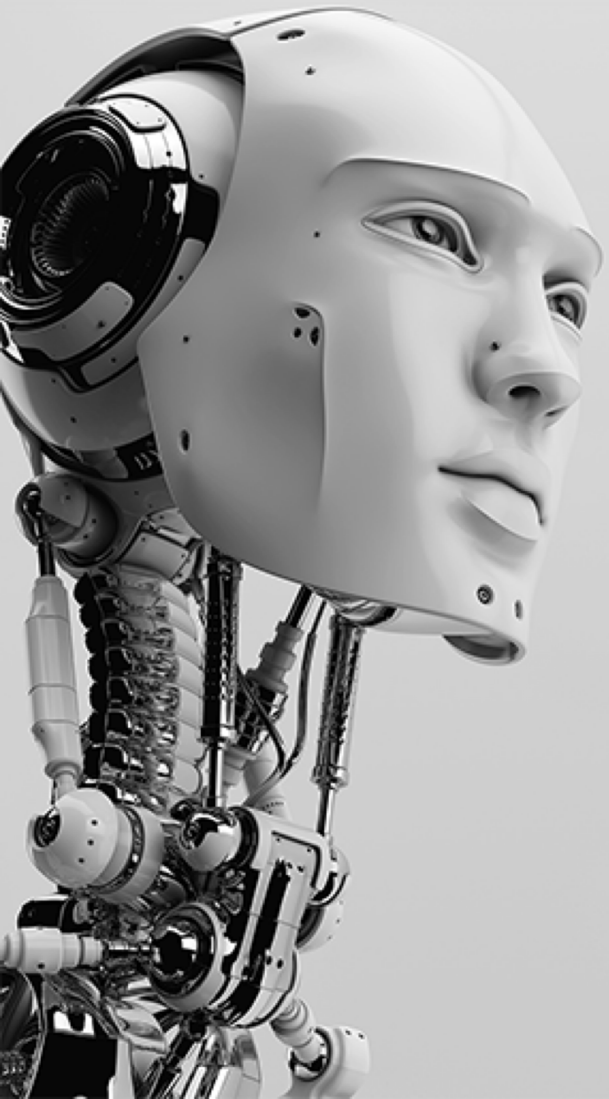
They have a deep partnership with Gecheng IP, one of the most renowned IP firms in China with clients such as Dell, Bentley, LG, Qualcomm and more. Gecheng is working with Matrix to move their work flow to the blockchain meaning that there's potential for all of the clients that they work with to interact with the Matrix blockchain.

They partnered with CY Credit, who are a big data technology service company which, under the guidance of the central government and national development and reform commission, are enhancing credit information sharing and reporting data domestically and internationally.

They partnered with the Malaysian Industry-Government Group for High Technology. A government body in Malaysia under the Prime Minister's department put together to align industry and government in Malaysia. Their primary goal is to act as an interlocutor between members in order to push forward Malaysia's high tech industry in accordance with government goals. Members include giants like Petronas, Sime Darby, and Honeywell.

The one stunning admission is that they are still 18 months away from deploying their entire blockchain. One can imagine a day when their AI platform is fine tuned, their blockchain built, and their hardware in production. When that day comes the real partnerships should be realized. A truly unique situation in the blockchain world.

The Investors



There is little doubt that a project of this quality will not go under the radar of venture investors. This is a dream project for investors because it ticks all the boxes.

Matrix has close to ten capital groups that have invested in them. Of particular note are two. Cybernaut is one of the most influential investment institutions in China. They are consistently voted in the top 5 venture firms. Min Zhu, the founder is considered to be China's most influential investor. Equally a powerhouse FengHe has invested in Matrix. John Wu, their chairman, was the CTO for Alibaba.

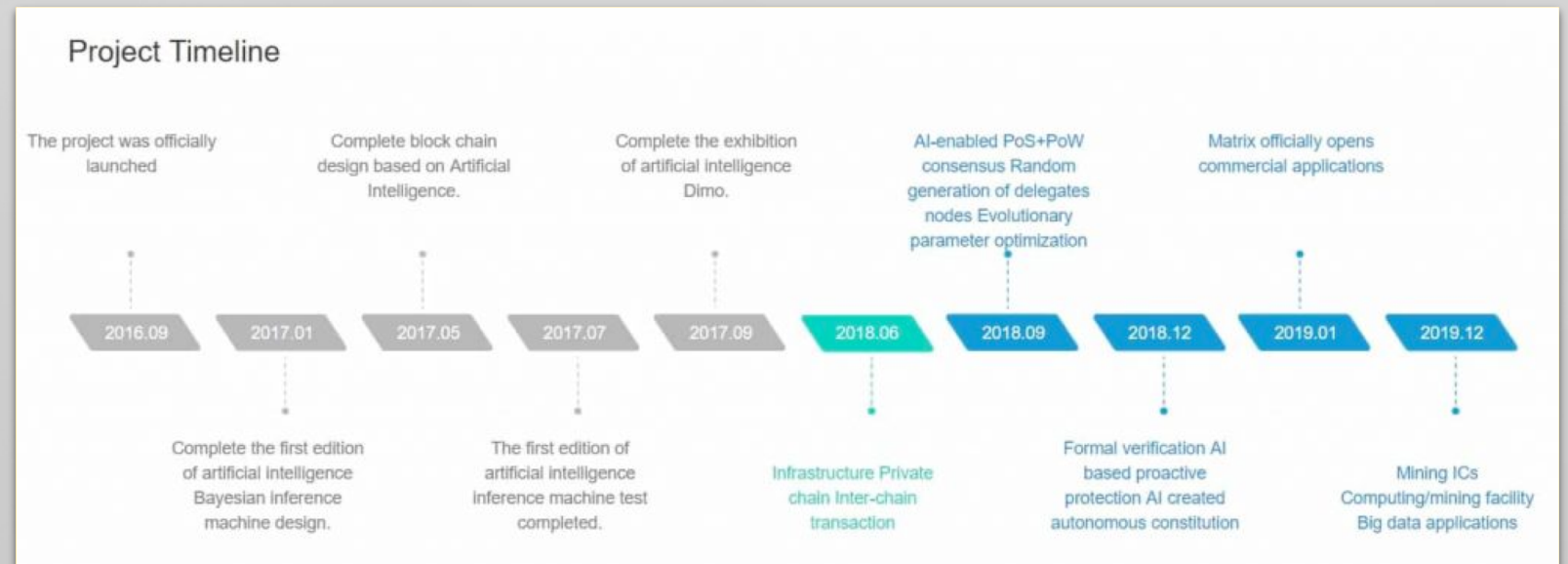
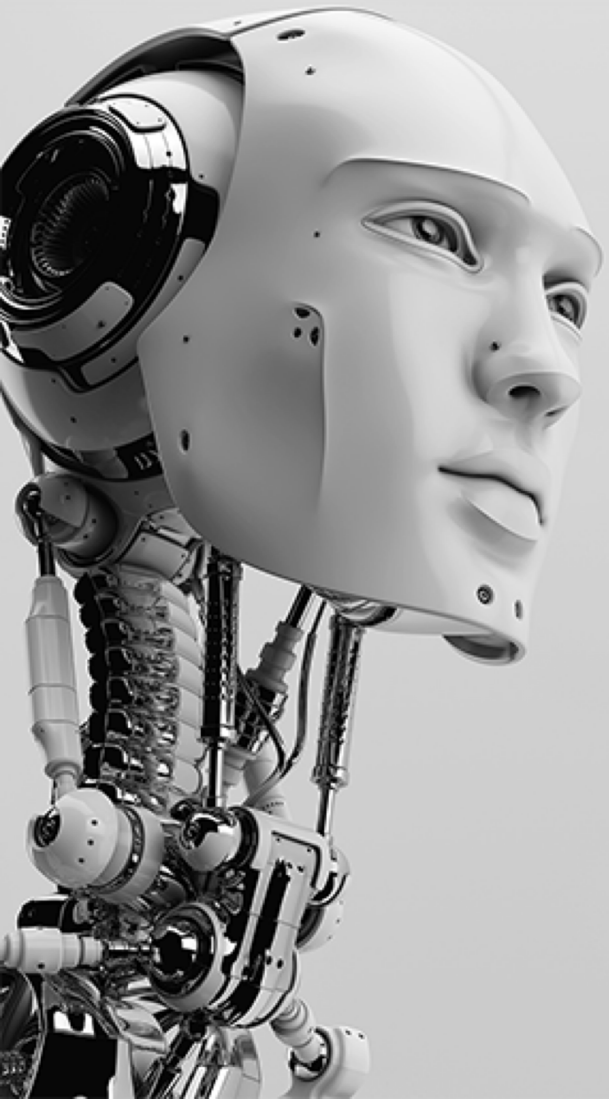
Lastly, Torque VC has invested in some of the best names in blockchain including ICON, WanChain, and Pchain. They not only understand who the heavyweights are they only invest in the best.

Huobi Labs, a division of Huobi, is partnering with Matrix to help build their ecosystem and their community development. Matrix has allocated \$10 million towards community development and it is likely that much of this will go to Huobi to gain visibility in the crypto and blockchain investment community.

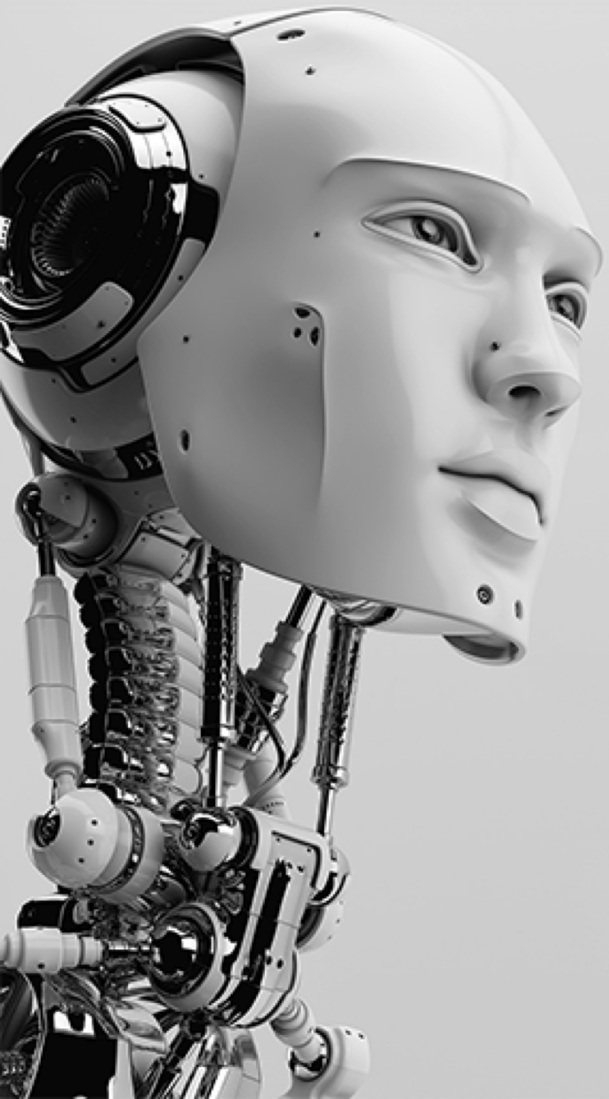
The Roadmap

Given the size of the project, it has a rather long road map as one would expect.

To be fully realized the project will release a version in September 2018 and be completed in 2019. There is little to be said other than a project of this size requires time.



The Latest News



- Founded a fund of \$10 million for community building efforts
- Reached 50k TPS in 1st-generation research prototype
- Announced the opening of mining chip company
- Announced they will build an ecosystem and community with Huobi
- Added team members to the current 25 including members from Alibaba, Huawei, Microsoft, Facebook, Face++, Qualcomm
- A collaboration with top China universities (Bayesian Foundation)
- Announced a Beijing University joint lab of blockchain technologies
- Announced that BIT.GAME and PopulStay dApps will be built on Matrix
- Announced the formulation of the “World Blockchain Game Consortium”
- Announced they are working with Zhencode Science and Technology to allow traditional Chinese medicine to go global

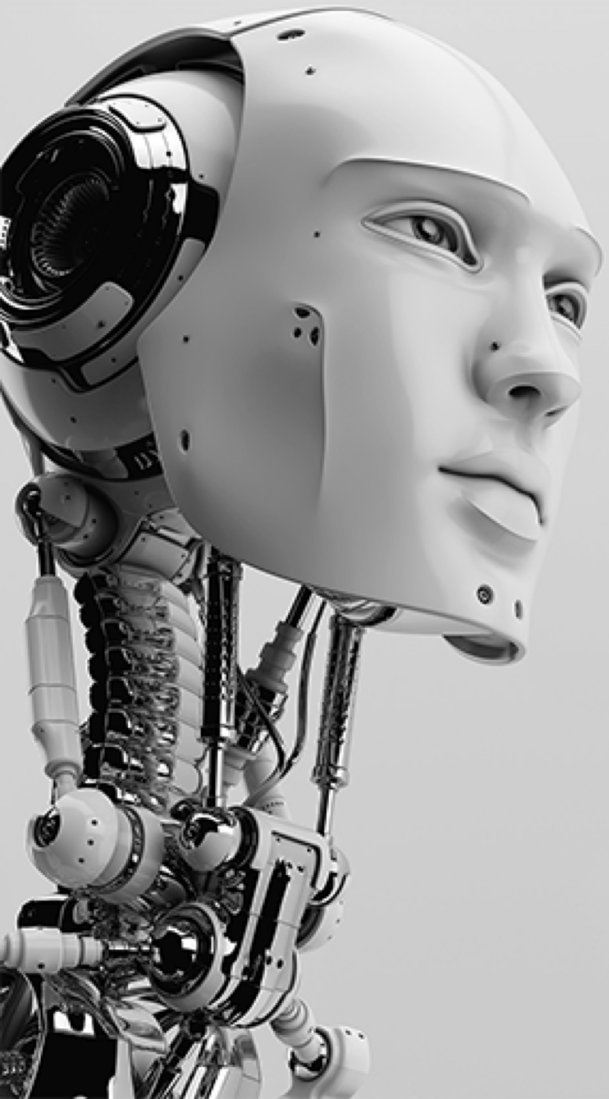
Scoring

Technology	10+
Team	10+
Partnerships	10+
Vision	10
Use Cases	9
Marketing	6
Community	7

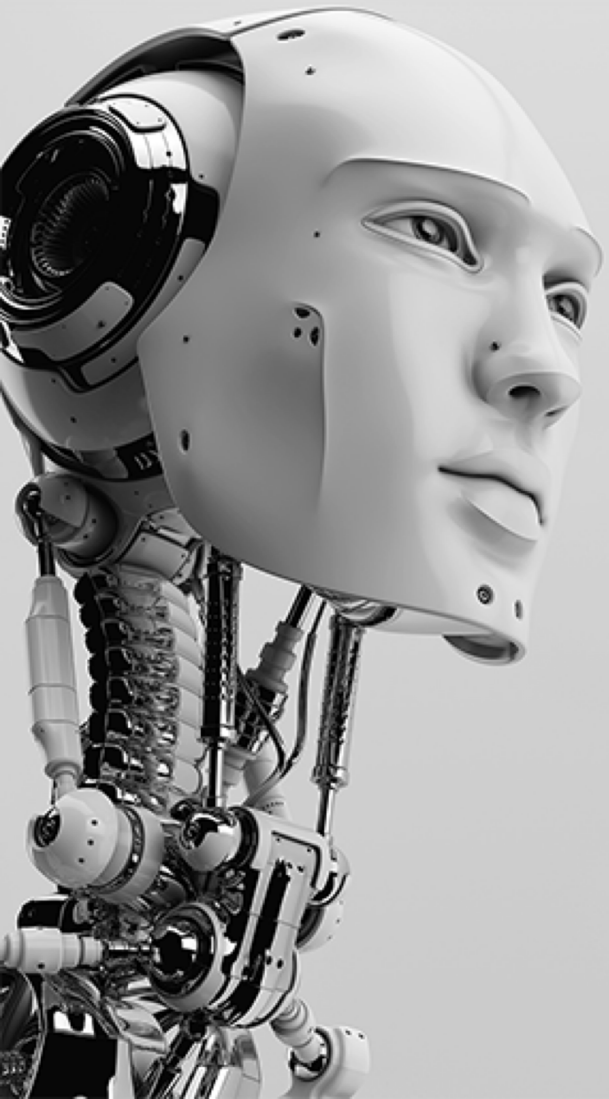


FINAL THOUGHTS...

This was one of the most in-depth and complex projects to research. The sheer size and ambition of this project puts most other blockchain projects on notice. While they do need to work through some of their marketing and community support it is clear this will change given their list of advisors and the visibility of this project. While other projects might excel in one area like scalability or partnerships it's rare to find a holy grail like this that pulls them all together under one umbrella. For current day blockchain projects, it simply does not get better than this.



Sources



- [Matrix AI Website](#)
- [Matrix Community Website](#)
- [Medium Articles](#)
- [Matrix AI Telegram](#)
- [Matrix AI Twitter](#)
- [YouTube Interview Video #1](#)
- [YouTube Interview Video #2](#)
- Many Questions to the Team Members